Syntex Facility Site

299 Extension Street
Verona, MO

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PUB2752

Site Description

The Syntex Facility – Verona site consists of 180 acres of land, divided into two portions by the Spring River, located at 299 Extension Street, Verona, Missouri. Production activities at this site from the 1960s to 1972 resulted in the contamination of soil and groundwater with dioxin and volatile organic compounds. Cleanup activities at the site were completed in 1998, and site monitoring is ongoing.

Hoffman-Taff, Inc. initiated operations at the site in the early 1960s. Hoffman-Taff produced 2,4,5-trichlorophenoxy-acetic acid (2,4,5-T) for the U.S. Army as part of the production of the defoliant commonly known as Agent Orange. In 1968, Hoffman-Taff leased part of one of the facility's buildings to the Northeastern Pharmaceutical and Chemical Company (NEPACCO) to produce hexachlorophene, a pharmaceutical-grade disinfectant. Both 2,4,5-T and hexachlorophene production involves the intermediate production of 2,4,5-trichlorophenol and subsequently 2,3,7,8-tetrachlorodibenzo-p-dioxin (2,3,7,8-TCDD, or dioxin) as unwanted byproducts. These waste streams were removed from hexachlorophene and stored in tanks and lagoons on site.

In 1969, Syntex Agribusiness purchased the facility from Hoffman-Taff. NEPPACO continued to operate at the site until 1972, when the FDA banned the use of hexachlorophene. In 1982, Syntex began investigating the site based upon historical manufacturing activities. EPA placed the site on the Superfund National Priorities List on Sept. 8, 1983, because of the dioxin threat and releases to the environment. The Department placed the site on the Missouri Registry on Jan. 1, 1984. The site is divided by the Spring River into east and west portions. Syntex sold the east portion to DuCoa, L.P. in 1996. BCP Ingredients (BCP) purchased the plant from DuCoa in 2001.

In 2002, at the property owners' request, the Syntex Facility Superfund site was divided into two separate sites for purposes of the Missouri Registry: the Syntex - Verona (West) site and the Syntex - Verona (East) site. The Syntex - Verona (East) site, located east of the Spring River, currently is owned by BCP Ingredients, Inc. (BCP). That property is where NEPACCO formerly leased a building to manufacture hexachlorophene and produced dioxin as an unwanted byproduct. The Syntex - Verona (West) site is owned by Syntex Agribusiness, Inc. (Syntex) and is west of the Spring River. For remediation and regulatory purposes, the two properties are treated as one site.

BCP continues to operate a chemical production facility on the site's east portion. BCP produces choline chloride, a nutritive additive commonly used in animal and human food and supplements. Syntex maintains ownership of, but does not perform any operations on, the site's west portion, which contains the trench area where dioxin-contaminated wastes are buried.

Sources of Contamination

The primary contaminant of concern is dioxin, an unwanted byproduct of 2,4,5-T and hexachlorophene production. 1,4-dioxane and chlorobenzene are also contaminants of concern at the site. The origin of 1,4-dioxane at the site is unknown, but it may be related to the commercial production of choline chloride. The FDA sets limits of 1,4-dioxane in choline chloride products. EPA is preparing to send a follow-up information request to BCP regarding 1,4-dioxane and its relation to choline chloride production.

In spring and fall 2017, the Department provided oversight when EPA conducted sampling at the nearest private wells downgradient from the site: one at the Bontrager farm, located at 14317 Lawrence County Road 2210, and the other at the Kooi farm, located at 14320 Lawrence County Road 2210. Water samples were collected from both private wells and EPA conducted laboratory analysis for the following classes and types of compounds related to the site including: volatile organic compounds, semi-volatile organic compounds, dioxin, and 1,4-dioxane. All of the sample results indicated these wells did not contain any of the site-related compounds at or above levels of a health concern.

Investigation and Cleanup Activities

Since the 1980s, the Department and EPA have provided oversight for many site-related investigations and cleanup activities. In 1988, EPA issued the Record of Decision (ROD) for Operable Unit 01 (OU01), which encompassed cleanup of dioxin-contaminated soils, equipment, and debris at the facility. The selected long-term remedy for dioxin-contaminated soils and equipment included excavation and off-site thermal treatment of dioxin-contaminated soil, dismantling and decontamination of equipment, capping and covering the trench area, and backfilling and vegetating of contaminated area.

Cleanup activities were completed in 1998 and monitoring is ongoing. The cleanup action level for dioxin-contaminated soil was set at 20 parts per billion. In 1993, EPA issued the OU02 ROD for groundwater, which involved a No Action remedy based on groundwater contamination being within health-based standards. Groundwater monitoring is ongoing to ensure levels remain below health-based standards.

EPA has conducted several Five-Year Reviews of the site's remedy. These reviews are designed to ensure the remedy is protective of public health and the environment, and functions as intended by site decision documents. The most recent review, conducted on Sept. 28, 2017, concluded that EPA cannot determine the remedy's protectiveness until they conduct further groundwater monitoring, conduct 1,4-dioxane analyses, and conduct a risk assessment. Syntex continues to collect data for the risk assessment and evaluation is ongoing.

For More Information

More information about EPA's involvement at the Syntex site is available https://cumulis.epa.gov/supercpad/cursites/csitinfo.cfm?id=0700881&msspp=med.

For additional information regarding the site, contact the Department's project manager, Kyle Anderson, at 573-751-1990.

Site Map

A map of the site and surrounding area is below.